

1    ***Claims***

2    1.    A composite video signal separation device, comprising  
3            a delay memory for storing a composite signal, and configured to output multiple  
4            delayed versions of said composite signal;  
5            multiple demodulators, coupled to said delay memory, and configured to  
6            demodulate said multiple delayed versions of said composite signal by a sub-carrier,  
7            generating multiple complex baseband signals;  
8            a vertical signal processing block, coupled to said multiple demodulators, and  
9            configured to process said multiple complex baseband signals, and configured to output a  
10            first separated signal;  
11            a modulator, coupled to said vertical signal processing block, and configured to  
12            modulate said first separated signal, generating a remodulated signal;  
13            a subtraction means, coupled to said modulator and configured to subtract said  
14            remodulated signal from one of said multiple delayed versions of said composite signal,  
15            generating a second separated signal.

1            2.    A composite video signal separation device, comprising  
2            a delay memory for storing a composite signal, and configured to output multiple  
3            delayed versions of said composite signal;  
4            multiple demodulators, coupled to said delay memory, and configured to  
5            demodulate said multiple delayed versions of said composite signal by a sub-carrier,  
6            generating multiple complex baseband signals;  
7            a vertical signal processing block, coupled to said multiple demodulators, and  
8            configured to process said multiple complex baseband signals, and configured to output a  
9            first separated signal and a second separated signal;  
10            a modulator, coupled to said vertical signal processing block, and configured to  
11            modulate said first separated signal, generating a remodulated signal;  
12            a subtraction means, coupled to said modulator and configured to subtract said  
13            remodulated signal from one of said multiple delayed versions of said composite signal,  
14            generating a third separated signal.

1           3.       A composite video signal separation device, comprising  
2           a delay memory for storing a composite signal, and configured to output multiple  
3       delayed versions of said composite signal;  
4           multiple demodulators, coupled to said delay memory, and configured to  
5       demodulate said multiple delayed versions of said composite signal by a sub-carrier,  
6       generating multiple demodulated signals;  
7           multiple horizontal signal processing blocks, coupled to said multiple  
8       demodulators, and configured to process said multiple demodulated signals, generating  
9       multiple complex baseband signals;  
10          a vertical signal processing block, coupled to said multiple horizontal signal  
11       processing blocks, and configured to process said multiple complex baseband signals,  
12       and configured to output a first separated signal;  
13          a modulator, coupled to said vertical signal processing block, and configured to  
14       modulate said first separated signal, generating a remodulated signal;  
15          a subtraction means, coupled to said modulator and configured to subtract said  
16       remodulated signal from one of said multiple delayed versions of said composite signal,  
17       generating a second separated signal.

1       4.       A method for composite video signal separation, comprising the following steps:  
2           obtaining samples of a composite signal;  
3           storing said samples in a delay memory;  
4           demodulating multiple samples from said delay memory by a subcarrier to form  
5       multiple complex baseband signals;  
6           vertically processing said multiple complex baseband signals to form a first  
7       separated signal;  
8           modulating said first separated signal by a subcarrier to form a remodulated  
9       signal; and  
10          subtracting said remodulated signal from one of said samples of said composite  
11       signal to from a second separated signal.

1       5.     A method for composite video signal separation, comprising the following steps:  
2           obtaining samples of a composite signal;  
3           storing said samples in a delay memory;  
4           demodulating multiple samples from said delay memory by a subcarrier to form  
5     multiple complex baseband signals;  
6           vertically processing said multiple complex baseband signals to form a first  
7     separated signal and a second separated signal;  
8           modulating said first separated signal by a subcarrier to form a remodulated  
9     signal; and  
10          subtracting said remodulated signal from one of said samples of said composite  
11     signal to from a third separated signal.

1       6.     A method for composite video signal separation, comprising the following steps:  
2           obtaining samples of a composite signal;  
3           storing said samples in a delay memory;  
4           demodulating multiple samples from said delay memory by a subcarrier to form  
5     multiple demodulated signals;  
6           horizontally processing said multiple demodulated signals to form multiple  
7     complex baseband signals;  
8           vertically processing said multiple complex baseband signals to form a first  
9     separated signal;  
10          modulating said first separated signal by a subcarrier to form a remodulated  
11     signal; and  
12          subtracting said remodulated signal from one of said samples of said composite  
13     signal to from a second separated signal.